



Short report

Increasing mortality differentials by residential area level of poverty: Britain 1981–1997

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Abstract

This paper considers mortality for ages 15–64 for the period 1981–97 in Britain according to population deciles defined by an area-based poverty measure. Over the study period there has been a polarization of life chances such that by 1994–97 almost one quarter of deaths in this age group can be attributed to unfavourable socioeconomic circumstances. Mortality differentials according to socioeconomic circumstances increased in tandem with increases in income inequality. A commitment to redistributive social policies is necessary if the trend of increasing inequality is to be reversed. © 2000 Elsevier Science Ltd. All rights reserved.

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Social class differentials in mortality increased from the early 1970s to the early 1990s for both men and women of working age (Drever and Whitehead, 1997). However, the relative size of the social class groups changed over this period. 5% of men of working age were in social class I in 1971, as compared with 7% in 1991. The equivalent figures for social class V are 9% and 5% respectively. Thus, social class mortality differentials in the early 1990s are based on comparisons between groups of different relative sizes, an unsatisfactory basis for making such comparisons. In addition, mortality data by social class are only available for the whole population around each census, and the next series of data are unlikely to appear until well

into the first decade of the new millennium. Given the evidence of increasing mortality differentials, and a declared governmental commitment to reducing them, it is important to have data available on a more timely basis. The work of Richard Wilkinson, showing a relationship between higher income inequality and lower population mortality, has also focused attention on this issue (Wilkinson, 1996). We have therefore examined mortality differentials according to poverty levels of residential area for the period 1981–97. This allows us to provide more up-to-date information on trends in mortality differentials as well as describing the position that faced the new Labour administration on entering office.

The mortality data used in this study are the Office for National Statistics digital records of all deaths in England and Wales that occurred between 1981 and 1997 and equivalent records from the Registrar Gen-

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eral for Scotland. Mortality data for 15–64 year olds are used here. The full postcode of the usual residence of the deceased was used to assign each death to the parliamentary constituency in which the deceased usually lived. The death data were provided for 1981–85, 1986–89 and single years since then; these have been grouped into 1990–93 and 1994–97. Population data came from the 1981 census, the 1991 census (corrected for under-enumeration; Simpson, 1994), and from the 1996 mid-year estimates. Poverty was indexed by a modified version of the Breadline Britain index, based on lack of basic amenities and car access, unskilled and semi-skilled manual occupations, unemployment, non-owner-occupier households and lone parent households. This is a validated indicator of deprivation (Gordon, 1995). Constituencies were ranked according to the poverty measure and divided into equal population sized deciles on the basis of this ranking; they are not geographically contiguous. The same ranking deciles are used for each of the four time periods compared. Standardized mortality ratios (SMRs) were calculated separately for men and women for these deciles, using the overall age-specific mortality rates for England and Wales for the periods under consideration. For each period we have also calculated how many deaths would have occurred if the whole population experienced the age-specific mortality rates of those living in the least deprived areas and from this the proportion of deaths which were in excess of those which would have occurred had the death rates in the least deprived decile been common

to all others (see Table 1). There has been a substantial and continuing increase in the differentials over time for both men and women, in terms of SMRs. In terms of percentage of excess deaths, the differential has risen similarly.

Socioeconomic differentials in mortality have continued to increase in magnitude up until 1997. In the period 1994–97 in Britain 24% of deaths of people aged 15–64 would not have occurred had the mortality rates of the least deprived decile of the population applied nationally. Thus almost one quarter of all deaths can be attributed to unfavourable socioeconomic circumstances. It is plausible that a proportion of this polarisation might be attributed to, or exacerbated by, migration between areas, which can itself be driven by increasingly unfavourable socio-economic circumstances (Davey Smith et al., 1998). In these analyses we are certainly under-estimating the true attributable mortality since use of an area-based socioeconomic indicator for large population areas is likely to understate the differentials existing at the individual level. The increasing mortality differentials run hand in hand with increasing levels of income inequality, which grew dramatically from the late 1970s to the early 1990s and started increasing again from 1994 (Davey Smith et al., 1999). Indeed, a slight decline in inequality using the excess deaths measure occurred during the brief period of decreasing income inequality. The close association between income inequality, area-based poverty and mortality is surprising, given that for many causes of death a lag period would be

Table 1

Inequality in mortality in Britain, 1981–97: standardised mortality ratios and excess deaths by area poverty rate for men and women aged 15–64

Decile	All deaths aged 15–64				Male deaths aged 15–64				Female deaths aged 15–64			
	1981–85	1986–89	1990–93	1994–97	1981–85	1986–89	1990–93	1994–97	1981–85	1986–89	1990–93	1994–97
1	132	138	141	149	134	142	146	156	128	131	133	137
2	116	119	119	120	117	119	120	121	116	119	116	118
3	115	116	115	114	115	117	115	115	114	115	115	113
4	109	111	109	109	109	112	109	109	109	110	108	109
5	103	103	101	100	103	102	100	100	103	103	102	102
6	97	96	94	96	97	96	93	95	97	97	96	97
7	92	91	89	90	92	91	88	89	93	92	90	91
8	90	89	86	87	89	88	85	85	91	91	89	91
9	86	85	82	83	85	84	80	81	88	87	86	86
10	81	79	78	77	80	77	77	75	83	83	80	80
Ratio 10:1	1.6	1.7	1.8	1.9	1.7	1.8	1.9	2.1	1.5	1.6	1.7	1.7
Excess ^a	20.8%	22.4%	22.3%	24.0%	21.8%	24.4%	23.6%	25.7%	19.1%	19.1%	20.1%	21.1%

^a Excess deaths as a percentage of all deaths. Deaths that would not have occurred in Britain had the mortality rates of decile 10 applied nationally.

expected (Davey Smith, 1996). A reversal in the trend of health inequalities would require a commitment to reducing income and wealth inequalities which has not yet been displayed by the current government's fiscal policy.

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